

**TITLE**

Multi-Language Broadcast System

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**FIELD OF THE INVENTION**

The present invention relates generally to tour and large area broadcast systems and, more particularly, to simultaneous multi-language broadcast over a wireless medium for the purpose of receiving the broadcasted signal in the desired language. The primary application is for public facilities such as auditoriums, class-rooms, places-of-worship, courtrooms, guided and un-guided tours such as boats, buses, museums and walking tours whereby the user can listen to a portable radio tuned to a channel covering the language of choice.

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**BACKGROUND OF THE INVENTION**

Public facilities and attractions draw the attention of individuals from all over the world. Guided and un-guided tours offer the tourist or visitor an opportunity to tour or visit the facility of location. For many, the tour guide presents the information in the language most common to that geographic area or facility. This limits the amount of actual information many visitors derive from the tour due to language limitations or cultural differences. Some tours provide more than one guide with the ability to speak in different languages.

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Many tourists or visitors receive varied amounts of actual information about a tour or site depending on their understanding of the language of the tour guide. For many it is frustrating or futile to listen because of the limited understanding of the language or ability to hear in an environmentally noisy area.

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One way of presenting the information comprises the serial output of a number of different languages. This is not satisfactory due to the time necessary and furthermore due to the fact that many find it annoying listening to a large amount of information in foreign languages.

Another way of presenting the information comprises the parallel output from several different replay and transmission devices, where each device represents a single language. This is a solution that will require a significant amount of equipment and hence represents a both cumbersome and costly solution.

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## SUMMARY OF THE INVENTION

It is the object of the present invention to provide a pre-programmed multi-language experience for the visitor or tourist in an environment that is rewarding and informative and which at the same time requires a reduced amount of equipment than hitherto known.

The proposed system extends the benefit of the tour presentation to the visitor by providing them with a pre-programmed presentation in their language. The visitor wears a portable radio that receives the transmission from all language broadcast channels and selects which of the channels to listen. The pre-programmed information is arranged as digital files that can be called and sent to the transmitter for broadcast. Each digital file contains the tour presentation in a specific language. The computer is programmed to track the tour path or events and will broadcast the information for a given or specific site at the command of the tour operator or automatically when receiving external information such as a gps signal or switch signal indicating that it is ready to transmit the information about that specific site. The computer program selects the files containing the site information in the varied languages and broadcasts them over individual radio channels or time-slots.

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The system as described uses pre-programmed presentations recorded and digitized for use by a computer. The computer program calls the appropriate languages describing the site or event at a time that is synchronized with the actual site or event. The multi-language files are output to a de-multiplexer that separates each language into an individual channel for broadcast over a wireless transmitter. The tourist or visitor receives the information via a wireless receiver, tuned to their language-channel, and listens to the presentation via a headset.

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## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a schematic diagram depicting the elements of a preferred embodiment of the invention.

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## DESCRIPTION OF A PREFERRED EMBODIMENT

*Spec* A computer 1 programmed to respond to switch, voice, <sup>or</sup> external signals for <sup>that is</sup> selection of specific information, <sup>in the computer</sup> pre-recorded and digitized into data files, that

10 outputs the selected files to a wireless transmitter. The data files may be transmitted via a multi-plexed digital format using such RF modulation technologies as spread-spectrum frequency hopping, Time division multiple access, Code division multiple access, standard analog channels using different forms of modulation such as frequency modulation, [time-domain modulation]? or amplitude modulation. The

15 wireless transmitter 2 feeds one or multiple antennas 5 covering the area or desired range. The antenna 5 may also consist of high-loss coax, ground-plane, vertical or horizontal dipoles. The wireless receivers 3 contain the circuits necessary to receive the transmitted signals 4 and to de-modulate the signal into audio information that is amplified and output to a headsetspeaker 6. Contained in the receiver is a selector

20 device adapted for selecting the desired channel and hereby the desired language.